

#### 4.2.4.10 Waste Management

This section summarizes the impacts on waste management at Pantex under No Action and for each of the long-term storage alternatives to include the phaseout of Pu storage. There is no spent nuclear fuel or HLW associated with Pu or HEU storage. Table 4.2.4.10-1 lists the projected sitewide waste generation rates and treatment, storage, and disposal capacities under No Action for 2005. Projections for No Action were derived from the most recent available environmental data, with the appropriate adjustments made for those changing operational requirements where the volume of wastes generated are identifiable. The projection does not include wastes from future, yet uncharacterized, environmental restoration activities. The projections for No Action could change significantly depending on the decisions resulting from the PEIS on waste management being prepared by DOE or the Pantex EIS. Table 4.2.4.10-2 provides the estimated incremental operational waste volumes projected to be generated at Pantex as a result of the various storage alternatives prior to treatment. Some of the waste values described in this section are different than the waste values in the table. For those values that differ (for example, LLW), the table gives waste generated pre-treatment values and the text discusses post-treatment values (indicated as after treatment and volume reduction). The waste volumes generated from the various storage alternatives and the resultant waste effluent used for the waste impact analysis can be found in Section E.3.1. Facilities that would support the storage of Pu and/or HEU would treat and package all waste generated into forms that would enable staging and/or disposal in accordance with RCRA and other applicable statutes. Depending on decisions in waste-type-specific RODs for the Waste Management PEIS, wastes could be treated, and depending on the type of waste, disposed of onsite or at regionalized or centralized DOE sites. For the purposes of analyses only, this PEIS assumes that TRU and mixed TRU waste would be treated onsite to the current planning-basis WIPP WAC, and shipped to WIPP for disposal. This PEIS also assumes that LLW, mixed LLW, hazardous, and nonhazardous wastes would be treated and disposed of in accordance with current site practice.

##### No Action Alternative

Under this alternative, LLW, mixed LLW, hazardous, and nonhazardous waste would continue to be generated at Pantex from the missions outlined in Section 3.5. Pantex might also store, over the long term, certain quantities of pits from disassembled weapons, but minimal impacts on waste management is expected since such storage generates minimal additional waste.

Pantex's assembly/disassembly and HE programs would continue to generate low-level, mixed, hazardous, and nonhazardous wastes. Compactible components of solid LLW would continue to be processed at the onsite solid waste compaction facility. Mixed waste would be treated and disposed of according to the *Pantex Plant Federal Facility Compliance Act Site Treatment Plant/Compliance Plan* (September 1995) that was developed in accordance with the *Federal Facility Compliance Act*. Although the predominant workload in 1994 was disassembly operations, the activity levels were assumed to be representative of projected production levels that characterize No Action operations. It is expected that through waste minimization efforts generation rates would decrease.

##### Upgrade Alternative

##### *Preferred Alternative: Upgrade With Rocky Flats Environmental Technology Site Plutonium Pits Subalternative*

##### *Modify Existing Zone 12 South Facilities for Continued Plutonium Storage*

The upgrading of the existing Pantex storage facility for the continued storage of Pu would have a small impact on existing Pantex waste management activities. Construction waste volumes for the upgraded facility with RFETS Pu pits are presented in Table E.3.1.1-7. Upgrading the existing storage would have minimal impact on Pantex waste management activities. Waste generated during construction would consist of wastewater and solid nonhazardous and hazardous wastes. Nonhazardous waste would be disposed of as part of the construction

project by the contractor, and the hazardous waste would be shipped offsite to commercial RCRA-permitted treatment and disposal facilities. Operational waste volumes, as shown in Table 4.2.4.10–2, would increase slightly due to increased surveillance activities over No Action. [Text deleted].

Approximately  $0.8 \text{ m}^3$  ( $1 \text{ yd}^3$ ) of TRU waste from damaged PCVs and contaminated glovebox panels, windows, and gaskets would need to be processed and packaged to meet the WIPP WAC or alternative treatment level. While awaiting shipment to WIPP (depending on decisions made in the ROD associated with the supplemental EIS being prepared for the proposed continued phased development of WIPP for disposal of TRU waste), the TRU waste would be stored in above-grade storage facilities. One truck shipment every 11 years or, if applicable, one regular train shipment every 23 years or one dedicated train shipment every 67 years would be required to transport this waste to WIPP.

After treatment and volume reduction, approximately  $69 \text{ m}^3$  ( $90 \text{ yd}^3$ ) of LLW from solidified liquid LLW (such as decontamination solutions), protective clothing, HEPA filters, glovebox gloves, and decontamination equipment and materials would require disposal. Assuming a land usage of  $6,000 \text{ m}^3/\text{ha}$  ( $3,200 \text{ yd}^3/\text{acre}$ ), this would require  $0.01 \text{ ha/yr}$  ( $0.03 \text{ acre/yr}$ ) of LLW disposal area at NTS. Assuming  $16.6 \text{ m}^3$  ( $21.7 \text{ yd}^3$ ) of LLW per shipment, five additional shipments per year from Pantex to NTS would be required.

Contaminated shielding and cleaning materials would be the major contributors to the  $0.2 \text{ m}^3$  (50 gals) of liquid and  $8 \text{ m}^3$  ( $10 \text{ yd}^3$ ) of solid mixed LLW. This small amount of mixed LLW could be treated and disposed of through the use of existing and planned facilities in accordance with the *Pantex Plant Federal Facility Compliance Act Site Treatment Plan/Compliance Plan* (September 1995).

The  $1 \text{ m}^3$  (260 gal) of liquid hazardous wastes such as lubricants, cleaning solvents, paint, and lube oil and  $1.5 \text{ m}^3$  ( $2 \text{ yd}^3$ ) of solid hazardous wastes such as lead packing, wipes, and solid materials contaminated with oils, lubricants, and cleaning solvents would have minimal impact on waste management activities at Pantex, as there is adequate storage capacity while awaiting shipment to a commercial RCRA-permitted treatment and disposal facility.

Approximately  $12,900 \text{ m}^3$  (3,400,000 gal) of liquid nonhazardous wastes, including sanitary, utility, and process wastewaters, and cooling system blowdown, would be processed using existing and planned liquid nonhazardous waste facilities. After volume reduction,  $138 \text{ m}^3$  ( $180 \text{ yd}^3$ ) of solid nonhazardous wastes such as clean non-Pu metals, packing materials, office trash, defective and damaged equipment, and industrial waste from utility and maintenance operations would be shipped to the currently utilized offsite landfill.

#### ***Upgrade Without Rocky Flats Environmental Technology Site Plutonium or Los Alamos National Laboratory Plutonium Subalternative***

##### ***Modify Existing Zone 12 South Facilities for Continued Plutonium Storage***

The Upgrade Without RFETS Pu or LANL Pu Subalternative is similar to the Upgrade With RFETS Pu Pits Subalternative because the modified facilities in Zone 12 South would be designed with adequate capacity to store all of the RFETS Pu pits. No additional resources would be required and therefore the impacts would be the same.

#### ***Upgrade With All or Some Rocky Flats Environmental Technology Site Plutonium and Los Alamos National Laboratory Plutonium Subalternative***

##### ***Modify Existing Zone 12 South Facility for Continued Plutonium Storage***

The impacts from the inclusion of RFETS and LANL material are bounded by the impacts from the Consolidation Alternative Construct New and Modify Existing Zone 12 South Facilities Option. The amount of

operational waste volumes would be larger than those presented above in the Upgrade Without RFETS or LANL Material Subalternative.

### **Consolidation Alternative**

#### *Construct New and Modify Existing Zone 12 South Facilities*

Construction and operation of a consolidated Pu storage facility through an upgrade of existing facilities would have an impact on existing Pantex waste management activities, increasing the generation of TRU, low-level, mixed, hazardous, and nonhazardous wastes. Wastes generated during construction would consist of wastewater, nonhazardous solids, and hazardous wastes. The nonhazardous wastes would be disposed of as part of the construction project by the contractor, and the hazardous wastes would be shipped to commercial RCRA-permitted treatment and disposal facilities. No soil contaminated with hazardous material or radioactive constituents is expected to be generated during construction. However, if any was generated it would be managed in accordance with site practice and all applicable Federal and State regulations. The types of operational wastes from the consolidated Pu storage facility would be same as those from the Pu Storage Upgrade, but the quantity would change, as shown in Table 4.2.4.10-2.

After treatment and volume reduction of TRU waste, approximately 5 m<sup>3</sup> (7 yd<sup>3</sup>) of TRU waste and 4 m<sup>3</sup> (5 yd<sup>3</sup>) of mixed TRU waste from leaded gloves and windows, and contaminated Pb shielding would be treated and packaged to meet the current planning-basis WIPP WAC or alternative treatment level. While awaiting shipment to WIPP (depending on decisions resulting from the supplemental EIS noted earlier), the TRU and mixed TRU waste would be stored in above-ground storage facilities. One additional truck shipment per year or, if applicable, one regular train shipment every 2 years or one dedicated train shipment every 6 years would be required to transport these wastes to WIPP or an alternate facility.

Following treatment and volume reduction, approximately 630 m<sup>3</sup> (824 yd<sup>3</sup>) of LLW would require disposal at NTS. This would require approximately 0.1 ha/yr (0.3 acre/yr) of LLW disposal area and 38 additional LLW shipments to NTS. The 0.2 m<sup>3</sup> (50 gal) of liquid mixed LLW and 65 m<sup>3</sup> (85 yd<sup>3</sup>) of solid mixed LLW would be treated and disposed of through the use of existing and planned facilities according to the Pantex Site Treatment Plan. The 2 m<sup>3</sup> (476 gal) of liquid and 2 m<sup>3</sup> (3 yd<sup>3</sup>) of solid hazardous wastes would have a minimal impact on waste management activities at Pantex, as there is adequate storage capacity while awaiting shipment to a commercial RCRA-permitted treatment and disposal facility.

Approximately 109,500 m<sup>3</sup> (28,900,000 gal) of liquid nonhazardous wastes would be processed using existing and planned liquid nonhazardous waste facilities. After volume reduction, 780 m<sup>3</sup> (1,020 yd<sup>3</sup>) of solid nonhazardous wastes would require disposal at the offsite landfill.

#### *Construct New Plutonium Storage Facility*

Construction and operation of a consolidated Pu new storage facility would have an impact on existing Pantex waste management activities by increasing the generation of TRU, low-level, mixed, hazardous, and nonhazardous wastes. Waste generated during construction would consist of wastewater, nonhazardous solids, and hazardous wastes. The nonhazardous wastes would be disposed of as part of the construction project by the contractor, and the hazardous wastes would be shipped to commercial RCRA-permitted treatment and disposal facilities. No soil contaminated with hazardous material or radioactive constituents is expected to be generated during construction. However, if any was generated it would be managed in accordance with site practice and all applicable Federal and State regulations. The impacts from TRU, low-level, mixed, and hazardous wastes are identical to those identified in the consolidation through upgrade analysis.

The 97,800 m<sup>3</sup> (25,800,000 gal) of liquid nonhazardous wastes would be processed in existing and planned facilities. After volume reduction, 720 m<sup>3</sup> (942 yd<sup>3</sup>) of solid nonhazardous wastes would require disposal at the offsite landfill.

### Collocation Alternative

#### *Construct New Plutonium and Highly Enriched Uranium Storage Facilities*

Construction and operation of a consolidated Pu storage facility collocated with HEU storage would have an impact on existing Pantex waste management activities by increasing the generation of TRU, low-level, mixed, hazardous, and nonhazardous wastes. Waste generated during construction would consist of wastewater, nonhazardous solids, and hazardous wastes. The nonhazardous wastes would be disposed of as part of the construction project by the contractor, and the hazardous wastes would be shipped to commercial RCRA-permitted treatment and disposal facilities. No soil contaminated with hazardous material or radioactive constituents is expected to be generated during construction. However, if any was generated it would be managed in accordance with site practice and all applicable Federal and State regulations.

Because there is no TRU or mixed TRU waste associated with HEU storage, the impacts from TRU and mixed TRU wastes are identical to those identified in the consolidated Pu storage alternative. The sources of waste are similar to those of the upgraded Pu storage facility, except the source of radioactive contamination from the HEU storage is uranium. Operational waste volumes are shown in Table 4.2.4.10–2.

Following treatment and volume reduction, approximately 630 m<sup>3</sup> (824 yd<sup>3</sup>) of LLW contaminated with Pu and 20 m<sup>3</sup> (26 yd<sup>3</sup>) of LLW contaminated with uranium would require disposal at NTS. This would require approximately 0.1 ha/yr (0.3 acre/yr) of LLW disposal area and 39 additional LLW shipments to NTS. The 0.2 m<sup>3</sup> (55 gal) of liquid mixed LLW and 66 m<sup>3</sup> (86 yd<sup>3</sup>) of solid mixed LLW would be treated and disposed of through the use of existing and planned facilities according to the *Pantex Site Treatment Plan*. The 2 m<sup>3</sup> (528 gal) of liquid and 2 m<sup>3</sup> (3 yd<sup>3</sup>) of solid hazardous wastes would have a minimal impact on waste management activities at Pantex, as there is adequate storage capacity while awaiting shipment to a commercial RCRA-permitted treatment and disposal facility. The 129,500 m<sup>3</sup> (34,200,000 gal) of liquid nonhazardous wastes would be processed in existing and planned facilities. After volume reduction, the 920 m<sup>3</sup> (1,200 yd<sup>3</sup>) of solid nonhazardous wastes would require disposal at the offsite landfill.

### Subalternative Not Including Strategic Reserve and Weapons Research and Development Materials

The exclusion of strategic reserve and weapons R&D materials would reduce the amount of operational waste volumes shown in Table 4.2.4.10–2 for the No Action Alternative, the Upgrade Alternative, the Consolidation Alternative, and the Collocation Alternative. The decrease would be proportional to the amount of material excluded. [Text deleted.]

### Phaseout

The phaseout of Pu storage would have no impact on Pantex waste management activities. The volume of waste would not decrease in any measurable quantity until the facilities in which Pu is stored were D&D.